

# Science



# Things grow when the conditions are right.

It's true for industry, agriculture and it's most certainly true for people. At Lincoln University, helping you grow is what we are all about.

And we encourage you to do it your way, with diverse learning that fits your ambitions in an environment that allows you to flourish.

We partner you with industry to prepare you for the real world and to plant the seeds of a rewarding future.

So when the time comes, you're ready to go out there and grow the future for yourself and others.

Welcome to Lincoln University.  
A place to grow.



## Welcome

### Lincoln University is proud to help grow your future.

As the longest running agriculturally based university in the Southern Hemisphere, Lincoln's story begins with farming but it certainly doesn't end there. As New Zealand's economy has diversified so have we. What we are interested in growing is people.

Now more than ever, we are enabling our students to grow to meet urgent industry demands in areas such as food, fibre, sustainability, agribusiness and more.

At Lincoln, we offer great learning and growth through powerful applied research, deep industry collaborations, global connections and world-class learning environments and teaching.

As a Lincoln graduate you'll arrive at your career globally connected, forward thinking and ready to shape tomorrow.

Lincoln is a safe haven that will offer you a wealth of opportunities to develop leading-edge skills here and in the real world. Just as importantly, you will become part of a thriving and inclusive student community, forging friendships that will last a lifetime.

We truly look forward to helping you grow.

\*pending approval

## Contents

Lincoln and the Canterbury region	02
Why Lincoln University?	03
Lincoln at a glance	04
<b>Areas of specialisation &amp; qualifications</b>	<b>05</b>
Lincoln University's areas of specialisation	06
Science	07
Bachelor of Agricultural Science	08
Bachelor of Science	
Animal Science major	10
Brewing and Fermentation major	12
Conservation and Ecology major	14
Environmental Science major	16
Food Innovation major	18
Plant and Horticultural Sciences major	20
Bachelor of Viticulture and Oenology	22
Additional majors	24
Choose an additional major	26
Pathway Studies	27
<b>Careers</b>	<b>28</b>
<b>Growing careers</b>	<b>38</b>
A student journey	39
Graduate pathways	40
<b>Practical information</b>	<b>44</b>
Practical work	45
Key Dates and Events	46
Apply and enrol	48
Contacts	49



# Lincoln and the Canterbury region

## Welcome to Canterbury

Our campus is located in the Lincoln township, a thriving village on the Canterbury plains.

Lincoln is small and very friendly. It boasts local pubs, great cafés and eateries, shops and even its own farmers and craft market.

Twenty minutes away is Ōtautahi Christchurch, which is transforming itself into one of the world's most sustainable cities. Its rapidly evolving culture and energy makes it ideal for students.

And no more than a couple of hours from Ōtautahi Christchurch, Canterbury offers a huge range of exciting recreational options in areas of incredible natural beauty – you can bungy jump, hike, mountain bike, raft, surf, swim, play golf, shop, visit wineries and gardens, and so much more.



## Choosing Lincoln University

At Lincoln, we've got a solid reputation for offering the finest, most industry-relevant learning programmes. And we'd like to make you a part of that.

As New Zealand's leading land-based university, our specialised subject areas are all about harnessing the value of the land to help make the world a better place.

We've got strong industry ties to ensure that your learning lines up with what businesses need. Loads of our students gain work experience while they study, picking up real skills for the real world. You can't put a price on that.

We're the smallest university in New Zealand, which means a more personal learning environment, extra face time with lecturers and a friendly, village atmosphere.

## Māori and Pasifika

Lincoln University is a great place for Māori and Pasifika students to gain an excellent qualification in a fun, friendly and supportive environment.

We offer a values based programme of manaaki (support) for Māori students called Manaaki Taura that offers academic support, internships and practical work opportunities.

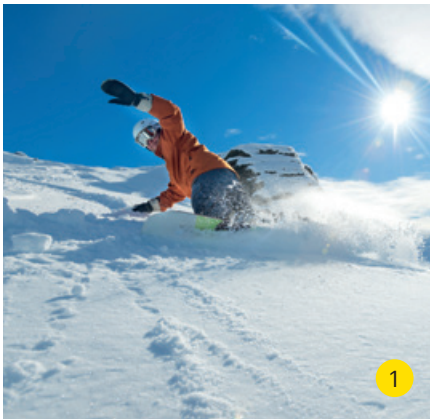
We're also committed to helping to develop the next generation of Māori and Pasifika leaders by offering industry-relevant, career-orientated programmes with support from Te Manutaki - the Māori and Pasifika Team.

## International students

Our students hail from around 80 different countries throughout the world. This makes Lincoln University a truly global network and a diverse, exciting place to be.

We hope you will join us soon.

- 1 Skiing at a local skifield only an hour and a half's drive from Ōtautahi Christchurch.
- 2 Local kapa haka group.
- 3 Recreational biking on Banks Peninsula.



Photos: ChristchurchNZ

# Why Lincoln University?

**At Lincoln University, we love our green and vibrant village full of like-minded people. There's always something to get involved in and the vibe is super friendly. Here are just a few of the things available to you as a Lincoln student.**

## Join the club.

Looking for great ways to meet new people, broaden your horizons and have some fun? Join a club. The Lincoln University Students' Association (LUSA) and the Whare Hākinakina LU Gym oversee all of our clubs and organisations. We can fill you in on what's out there or even help you set up your own club.

## Help is here.

Every student needs a little help now and then. That's why we have support services for every area of student life. And they're there for you whenever you need them. Whether it's budgeting advice, help with a physical or mental health problem or you just want someone friendly to talk to, we're on your side.

## LUSA. They're for you.

The good people at the Lincoln University Students' Association are all about making student life the best it can be. Independent from the university, they offer impartial advice and look after your student rights. LUSA is committed to the Treaty of Waitangi and they help represent our Māori students at Lincoln. They also organise awesome and affordable events.

Follow us and keep up to date



## Bridging the gap.

Urban meets rural at Lincoln, with students arriving from bustling cities, remote country farms and everywhere in between. They all find their place at New Zealand's top land-based university and they tend to leave as lifelong friends.

## Read it in RAM.

RAM is our infamous, entertaining and essential Lincoln student magazine. It's your monthly fix of satire, legend, inside word and even the occasional serious and factual article. Don't miss it.

## Great care for little ones.

Our philosophy of helping people to grow also extends to our fantastic childcare centres. We create an environment that promotes wonder and play as central to learning. Children of all cultures love it, which makes it much easier for their parents to concentrate on studying.

## Stellar coffee.

Where there are university students, there are also great cafés. And in our case, they're well worth a visit or two. If you're after a coffee to get your brain going, head to our fantastic student space, Grounded (which includes an awesome espresso bar), or our central café, Mrs O's.

## This way up.




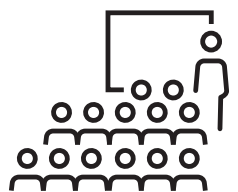

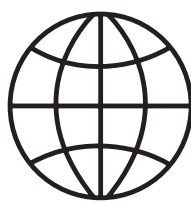



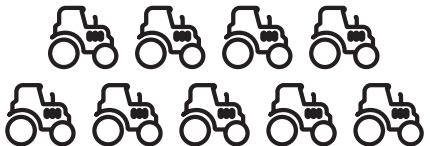

Need a bit of pointing in the right direction? There are plenty of people on campus to talk to about career and employment advice. If you want to discuss job possibilities or need to find a part-time gig while you study, we're here and ready to help.

- 1 The Grounded student space is a great place to catch-up.
- 2 Students enjoying themselves at the end-of-year Garden Party.
- 3 The Lincoln Tramping and Climbing club, one of over 30 clubs and societies at Lincoln.





# Lincoln at a glance

<div>15th</div> <div>rated for small universities globally</div> <div></div>	<div>82%</div> <div>of graduates in paid employment</div> <div></div>	<div>100%</div> <div>of campus energy is renewable</div> <div></div>
<div>13.3:1</div> <div>student to staff ratio</div> <div></div>	<div>92%</div> <div>of students say the University meets or exceeds expectations</div> <div></div>	<div>Students from over 67 countries</div> <div></div>
<div>In the top 25% of QS World University Rankings 2024</div> <div></div>	<div>Attracts urban &amp; rural students</div> <div></div>	<div>3rd oldest University in New Zealand</div> <div></div>
<div>2,412</div> <div>hectares of farms</div> <div></div>	<div>17</div> <div>research centres and collaborations</div> <div></div>	

# Areas of specialisation & qualifications





# Lincoln University's areas of specialisation

Our nine areas of specialisation are designed to help you tailor your learning to your ambitions.

Each area contains a range of practical study programmes that you can mix and match to gain the breadth of knowledge and expertise needed for success in your chosen field.

## Lincoln University areas of specialisation

Agriculture, Horticulture  
and Viticulture

Business

Environment

Food, Wine & Beer

Landscape Architecture

Property & Valuation

Science

Sport & Recreation

Tourism



## The purpose of this booklet

Our science programmes will prepare you to play a part in meeting the major demand for university graduates in some of the world's most enduring professions.

This booklet outlines the qualifications within the specialisation and explores potential career outcomes, as well as providing valuable information on how to get where you want to be.

We cover pathways our graduates have taken, offer insights into the journeys of some of our current students, and throw some real-world facts into the mix.

Ultimately, this book will assist you in making the right choice to grow your future.



To see the full range of qualifications on offer, visit: [www.lincoln.ac.nz](http://www.lincoln.ac.nz)

# Science

Our science programmes will prepare you to contribute to the sustainable management of land, water, air and the country's abundant natural resources.

There's a lot of demand for Lincoln science graduates in many industries, particularly areas such as agriculture, food science, environment and conservation.

Across all science disciplines, we use real-world examples and practical experiences to give you the skills to make an immediate difference in your chosen field.

Hands-on learning opportunities with leading scientists and industry professionals will get you a foot in the door as far as career options are concerned and the skills we teach are attractive to many employers.

Our strong research presence offers a broad world view of how science can be used to solve real problems, while our course content is highly focused, providing both theoretical and practical knowledge.

As our world changes, we need highly skilled individuals who can tackle the big issues. How do we create healthy foods from new ingredients that meet consumer expectations for sustainability? How do we protect our environment from biological threats? How do we maintain good environmental quality?

We are working hard to address these problems and as a Lincoln Bachelor of Science graduate, you can join us in our mission.



## Qualifications

- Diploma in Applied Science
- Bachelor of Agricultural Science
- Bachelor of Science | Animal Science major
- Bachelor of Science | Conservation and Ecology major
- Bachelor of Science | Environmental Science major
- Bachelor of Science | Brewing and Fermentation major
- Bachelor of Science | Food Innovation major
- Bachelor of Science | Individual major
- Bachelor of Science | Plant and Horticultural Sciences major
- Bachelor of Agricultural Science (Honours)
- Bachelor of Science (Honours)
- Graduate Certificate in Applied Science
- Graduate Diploma in Applied Science
- Graduate Diploma in Brewing and Fermentation
- Graduate Diploma in Viticulture and Oenology
- Postgraduate Certificate in Applied Science
- Postgraduate Diploma in Agricultural Science
- Postgraduate Diploma in Applied Science
- Master of Agricultural Science
- Master of Environment and Agriculture
- Master of Pest Management
- Master of Science
- Master of Science in Food Innovation
- Master of Wine & Viticulture
- PhD



# Bachelor of Agricultural Science

This qualification has produced some of the best leaders, thinkers and doers in the agricultural sector for over 140 years. Plus, if you really want to set yourself apart from the herd, you can undertake an original research project on a chosen topic in animal science, plant science, soil science or farm management to complete your degree with honours.

If you want a career helping farmers meet the demands of international markets with environment-friendly ways of getting food from the paddock to plate, you'll find the grass is always greener at Lincoln.

### Key features

- Gain in-depth knowledge of animal, plant and soil sciences
- Learn how primary industry, agricultural, and plant production systems work
- Undertake practical work on a farm or in an allied industry of your choice
- Use data from farms to investigate ways to improve feed and nutrient management

### Career opportunities

With a Bachelor of Agricultural Science from Lincoln University, you'll be an ideal candidate for a rewarding career in areas like consultancy, research, technical roles and farm management.

### Entry requirements

University Entrance through NCEA, or an approved equivalent qualification  
If English is not your first language other entry requirements will apply. Learn more about English language requirements here: [www.lincoln.ac.nz/english-requirements](http://www.lincoln.ac.nz/english-requirements)

### Recommended preparation

- Agriculture/Horticulture
- Biology\*
- Chemistry\*
- Computing
- English\*
- Māori Studies
- Maths/Statistics\*

\*Highly recommended subjects

### Intake semesters

You can start in either:

- Semester 1 (late February)
- Semester 2 (mid July)\*

There are also options for starting in summer semesters, although the range of courses available would be limited.

\*Please obtain course advice if you are thinking about this option.

### Additional major

There may be an opportunity to add an additional major to your programme of study. Please refer to the programme course advisor for further information.

### Practical work

During your degree, you'll need to complete 28 weeks of paid full-time practical work. This can include:

- Working on one dairy farm for 10-14 weeks
- Working on a sheep or beef farm for 10-14 weeks
- Using any remaining time to work on a different type of farm or in an allied industry of your choice

Previous farming experience is preferred but not essential.

To pass the practical work component, you'll need to demonstrate:

- Competence in driving vehicles (previous experience driving tractors or trucks would be an advantage)
- A physical aptitude for working on farms without endangering yourself or others

For more information, please email the Practical Work Coordinator at [practicalwork@lincoln.ac.nz](mailto:practicalwork@lincoln.ac.nz) or phone +64 3 423 0061.

Duration (Years)

4

Intake (Semesters)

1

2



### Course structure

Year 1							
LINC 101	MGMT 103	PHSC 101	ANSC 105	SOSC 106	PLSC 104	BIOS 110	Elective
Year 2							
PLSC 204	ANSC 213	MGMT 201	SOSC 224	QMET 201	Elective	Elective	Elective
Year 3							
AGRI 393	Elective	Elective	Elective	Elective	Elective	Elective	Elective
Year 4							
Elective	Elective	Elective	Elective	Elective	Elective	Elective	Elective

A course advisor can assist you to select your electives and plan your degree.

■ Compulsory course ■ Elective course ■ Recommended elective course

### Programme contact

Tom Maxwell  
Course Advisor  
E: [tom.maxwell@lincoln.ac.nz](mailto:tom.maxwell@lincoln.ac.nz)  
P: 03 423 0671



For more information or to apply visit [www.lincoln.ac.nz](http://www.lincoln.ac.nz) or call 0800 10 60 10.

I chose my degree because of its broad range of animal, soil, agronomy and farm management papers. I was able to choose topics which I was passionate about and customise my degree.

Becxs Bush  
Bachelor of Agricultural Science



# Bachelor of Science | Animal Science major

Animals are central to our wellbeing in New Zealand, whether we're developing animal-derived food and products for export, managing the environmental impact of introduced species, or considering the role of animals as companions and pets. Understanding animals' behaviour, the drivers of their health and wellbeing, their value to us, and our responsibilities to them is crucial to the economy and our day-to-day activities.

The Bachelor of Science majoring in Animal Science aligns with the needs of industry, preparing you to lead knowledge-driven solutions to some of our most significant challenges, now and into the future.

### Key features

- Learn from leaders in animal production science and benefit from industry networks with the sheep, fine wool and large-scale dairy industries of Aotearoa New Zealand
- Gain a sound knowledge base across several disciplines, blending research expertise with practical skills
- Gain practical experience in study design, data collection and analysis, and have the chance to develop and conduct your own research projects
- Focus on research-led papers in the third year, with ethical standards in animal health and welfare interwoven throughout the courses

### Career opportunities

The Bachelor of Science majoring in Animal Science will prepare you for a wide range of technical, advocacy and management roles across the animal science, management and livestock industries. Potential positions include animal breeding specialist, conservation officer, biosecurity officer, animal production specialist, pest controller, animal welfare officer and animal science researcher.

### Entry requirements

University Entrance through NCEA, or an approved equivalent qualification  
If English is not your first language other entry requirements will apply. Learn more about English language requirements here: [www.lincoln.ac.nz/english-requirements](http://www.lincoln.ac.nz/english-requirements).

### Recommended preparation

- Agriculture
- Biology\*
- Chemistry\*
- English\*
- Māori Studies
- Maths/Statistics\*

\*Highly recommended subjects

### Intake semesters

Duration (Years)

3

Intake (Semesters)

1 2



### Course structure

Year 1							
BIOS110	PHSC101	ANSC105	ECOL103	LINC101	MAST104	PHIL103	BMGT116
Year 2							
QMET201	BICH207	ANSC213	ANSC207	ECOL293	GENE201	Elective	Elective
Year 3							
ANSC319	ANSC327	Elective	Elective	Elective	Elective	Elective	Elective

A course advisor can assist you to select your electives and plan your degree.

■ Compulsory course ■ Recommended elective course ■ Elective course

### Programme contact

David Scobie  
Course Advisor  
E: [David.Scobie@lincoln.ac.nz](mailto:David.Scobie@lincoln.ac.nz)  
P: 03 423 0696



For more information or to apply visit [www.lincoln.ac.nz](http://www.lincoln.ac.nz) or call 0800 10 60 10.

The Bachelor of Science, majoring in Animal Science, aligns with the needs of industry, preparing you to lead knowledge-driven solutions to some of the industry's most significant challenges, now and into the future.

Professor Jon Hickford  
Faculty of Agriculture and Life Sciences

# Bachelor of Science | Brewing and Fermentation major

Craft your career in brewing. Gain sought after skills from this science-based programme that covers beer brewing and fermenting a wide range of products such as cheese, kombucha, cider, yogurt, kimchi, and kefir.

The brewing and fermentation industries hold key positions in our food sector. They make a wide range of high-quality goods utilising the produce of the land-based sectors. This degree major will make you highly employable in the brewing and fermentation industries around the world.

You will work alongside industry partners to develop a particular style of beer or fermented product, develop valuable hands-on skills, gain experience and learn production principles, and have the ability to take on a brewing or fermentation role in industry, or in your own business.

- Key features**
- Gain knowledge of the science and technology that underpin, maintain and enhance the quality of fermented products and be able to innovate new high-quality products
  - Achieve a high level of technical skills and competence
  - Gain an awareness of the whole value chain of brewed and fermented products
  - Learn the skills and values to apply these attributes within the food and beverage production industries

**Career opportunities**

Graduates of this degree will have the opportunity to develop a meaningful, fulfilling career in areas such brewing or production of fermented foods and beverages including cider, kombucha, cheese, yogurt, kimchi, and kefir, in almost any country.

**Entry requirements**

University Entrance through NCEA, or an approved equivalent qualification

If English is not your first language other entry requirements will apply. Learn more about English language requirements here: [www.lincoln.ac.nz/english-requirements](http://www.lincoln.ac.nz/english-requirements)

- Recommended preparation**
- Biology\*
  - Chemistry\*
  - Computing
  - English\*
  - Māori Studies
  - Maths/Statistics\*

*\*Highly recommended subjects.*

**Intake semesters**

You can start in either:

- Semester 1 (late February)
- Semester 2 (mid July)

There are also options for starting in summer semesters, although the range of courses available would be limited.

*\*Please obtain course advice if you are thinking about this option.*

Duration (Years)

3

Intake (Semesters)

12



**We see great employment prospects in the brewing industry which has grown massively with craft beer becoming so popular, as well as other sectors such as cheese and kombucha making.**

**Professor Stephen On**  
Course Advisor

**Course structure**

Year 1							
BIOS 110	PHSC 101	FOOD 101	Elective	Elective	Elective	Elective	Elective
Year 2							
FERM 201	QMET 201	BICH 207	FERM 202	ENGN 230	Elective	Elective	Elective
Year 3							
FERM 301	FERM 302	FERM 303	Elective	Elective	Elective	Elective	Elective

Compulsory course  Elective course

**Programme contact**

**Stephen On**  
Course Advisor  
E: [Stephen.on@lincoln.ac.nz](mailto:Stephen.on@lincoln.ac.nz)  
P: +64 3 423 0638

➔ For more information or to apply visit [www.lincoln.ac.nz](http://www.lincoln.ac.nz) or call 0800 10 60 10.



# Bachelor of Science | Conservation and Ecology major

As our world changes, we need highly skilled conservation and ecology specialists to help protect our environment and tackle the big questions. If this sounds like you, look no further.

This degree major is designed to produce graduates with a firm grounding in all of the appropriate sciences. It focuses on giving you practical skills, experience, and industry connections to contribute to the ecological and conservation activities of government and private agencies in New Zealand and beyond.

Plus, Lincoln is right at the cutting edge in this new era of research so you can be sure you're gaining the most relevant knowledge.

### Key features

- Gain the scientific understanding to help address major conservation issues
- Receive a solid grounding in the biological sciences – biology, ecology, geology, plant and animal sciences
- Participate in hands-on field trips and laboratories to consolidate your learning from weekly lectures
- Be taught by world-class scientists who are spearheading research into conservation and ecology

### Career opportunities

You'll graduate ready for a career in ecology, conservation, nature restoration, and wildlife biology. And you'll be in demand with a wide range of organisations, including local and regional councils, the Department of Conservation, Predator Free New Zealand, Zero Invasive Predators, Fish and Game, the Ministry for the Environmental, the Ministry for Primary Industries, Manaaki Whenua - Landcare Research, environmental consultancies, non-governmental conservation organisations, and universities.

### Entry requirements

University Entrance through NCEA, or an approved equivalent qualification.

If English is not your first language other entry requirements will apply. Learn more about English language requirements here: [www.lincoln.ac.nz/english-requirements](http://www.lincoln.ac.nz/english-requirements)

### Recommended preparation

- Biology\*
- Chemistry
- Computing
- English\*
- Geography/Social Studies
- Māori Studies
- Maths/Statistics\*
- PE/Outdoor Education

\*Highly recommended subjects

### Intake semesters

You can start in either:

- Semester 1 (late February)
- Semester 2 (mid July)\*

There are also options for starting in summer semesters, although the range of courses available would be limited.

\*Please obtain course advice if you are thinking about this option.

### Additional major

There may be an opportunity to add an additional major to your programme of study. Please refer to the programme course advisor for further information.

Duration (Years)

3

Intake (Semesters)

12



### Course structure

Year 1							
ENSC101	BIOS 110	ECOL 103	ANSC 105 or PLSC 104	Elective	Elective	Elective	Elective
Year 2							
ECOL 293	ECOL 202	QMET 201	ECOL 204	Elective	Elective	Elective	Elective
Year 3							
ECOL 302	SCIE 393	ECOL 309	Elective	Elective	Elective	Elective	Elective

Please note this degree structure is indicative only. A course advisor can assist you to select your electives and plan your degree.

■ Compulsory course   ■ Elective course

### Programme contact

**Jon Sullivan**  
Course Advisor  
E: [jon.sullivan@lincoln.ac.nz](mailto:jon.sullivan@lincoln.ac.nz)  
P: 03 423 0756

➔ For more information or to apply visit [www.lincoln.ac.nz](http://www.lincoln.ac.nz) or call 0800 10 60 10.

**The conjoint programme was very valuable, in that it gave huge breadth to my undergraduate studies, which has given me many skills to draw on in my current career.**

**Steven Pawson**  
Bachelor of Parks, Recreation and Tourism Management;  
Bachelor of Science |  
Conservation and Ecology major  
Master of Applied Science

# Bachelor of Science | Environmental Science major

The exploding human population is placing extreme pressure on the planet. The world needs skilled scientists to address the degradation of freshwater and productive land through overuse and pollution, loss of biodiversity and the climate emergency. Lincoln University's unique focus on land-based resources makes it the only place to prepare you for the most important work on Earth today!

The degree is designed to give you a firm grounding in all of the appropriate sciences relating to the natural environment and our effects on it. You will learn about natural processes in soil and water and understand the effects of land use, with the aim of protecting and restoring the environment for future generations.

You can complement these studies with elective courses relating to the economy, society, and environmental science to specialise to suit your goals.

### Key features

- Develop the scientific understanding to help address major issues such as climate change, intensive land and water use driven by rapidly-growing populations and industrialisation of developing countries
- Gain practical experience with the land and water issues you will face in the future, either in New Zealand or overseas
- Be taught by world-class scientists who are spearheading research into sustainable land use
- Play a central role in ensuring sustainability in Canterbury and beyond

### Career opportunities

Get ready for a serious range of choices. There are opportunities in: land and water resource science – irrigation technology development – climate change mitigation – groundwater and critical zone monitoring – restoration of degraded land – wetland chemistry and management – environmental policymaking for government – environmental advocacy.

### Potential employers include:

Governmental organisations – local and regional councils – primary production industries – irrigation companies – environmental consulting organisations.

### entry requirements

University Entrance through NCEA, or an approved equivalent qualification

If English is not your first language other entry requirements will apply. Learn more about English language requirements here: [www.lincoln.ac.nz/english-requirements](http://www.lincoln.ac.nz/english-requirements)

### Recommended preparation

- Biology\*
- Chemistry\*
- Physics
- English
- Geography/Social Studies
- Māori Studies
- Maths/Statistics\*
- PE/Outdoor Ed

\*Highly recommended subjects

### Intake semesters

You can start in either:

- Semester 1 (late February)
- Semester 2 (mid July)\*

There are also options for starting in summer semesters, although the range of courses available would be limited.

\*Please obtain course advice if you are thinking about this option.

### Additional major

There may be an opportunity to add an additional major to your programme of study. Please refer to the programme course advisor for further information.

Duration (Years)

3

Intake (Semesters)

1 2



### Typical degree structure

BIOS 110	ENSC 101	PHSC101	ECOL 103	PHSC 103	SOSC 106	Elective	Elective
QMET 201	SOSC 222	SOSC 223	WATR 202	ENSC 201	Elective	Elective	Elective
SCIE 393	ENSC 301	ENSC 302*	Elective	Elective	Elective	Elective	Elective

Please note this degree structure is indicative only. A course advisor can assist you to select your electives and plan your degree.

■ Compulsory course    □ Elective course

\*ENSC 302 is taught in even-numbered years only.

### Programme contact

**Nik Lehto**  
Course Advisor  
E: [niklas.lehto@lincoln.ac.nz](mailto:niklas.lehto@lincoln.ac.nz)  
P: 03 423 0796



For more information or to apply visit [www.lincoln.ac.nz](http://www.lincoln.ac.nz) or call 0800 10 60 10.

**The Bachelor of Science (Environmental Science) is a really well-rounded degree, with a lot of flexibility to focus on the areas that you're interested in (for example, soils and water are my key interests). The degree has set me up really well to launch me into my career.**

**Jennifer Tregurtha**  
Bachelor of Science | Environmental Science major



# Bachelor of Science | Food Innovation major

Governments are asking food companies to reduce their greenhouse gas emissions, meaning production must be sustainable while guaranteeing supply. The industry also needs to meet consumer demands for taste, nutrition and safety.

The Bachelor of Science (Food Innovation major) focuses on using cutting-edge technologies to create nutritious new food products with low environmental impact, preparing you to take advantage of career opportunities in this crucial area.

Key features

- Learn from world-leading academics
- Hear from industry guest speakers
- Carry out problem-based learning tasks to consolidate your knowledge
- Benefit from hands-on engagement with potential employers
- Have the opportunity to conduct experiments in purpose built laboratories

Career opportunities

The Bachelor of Science (Food Innovation Major) will prepare you for careers in food science research and new product development with food companies or other food-related organisations such as research centres, laboratories or the Ministry for Primary Industries.

Entry requirements

University Entrance through NCEA, or an approved equivalent qualification  
If English is not your first language other entry requirements will apply. Learn more about English language requirements here: [www.lincoln.ac.nz/english-requirements](http://www.lincoln.ac.nz/english-requirements)

Recommended preparation

- Biology\*
- Chemistry\*
- Computing
- English\*
- Māori Studies
- Maths/Statistics\*

\*Highly recommended subjects

Intake semesters

- You can start in either:
- Semester 1 (late February)
  - Semester 2 (mid July)\*

There are also options for starting in summer semesters, although the range of courses available would be limited.

\*Please obtain course advice if you are thinking about this option.

Additional major

There may be an opportunity to add an additional major to your programme of study. Please refer to the programme course advisor for further information.

Duration (Years)

3

Intake (Semesters)

12



Course structure

Year 1							
BIOS 110	PHSC 101	FOOD 101	Elective	Elective	Elective	Elective	Elective
Year 2							
FOOD 201	FERM 202	BICH 207	QMET 201	ENGN 230	Elective	Elective	Elective
Year 3							
FOOD 306	FOOD 301	FOOD 303	FOOD 302	FOOD 399	FOOD 305	FERM301	FOOD398

Please note this degree structure is indicative only.  
A course advisor can assist you to select your electives and plan your degree.

Compulsory course Recommended elective course Elective course

Programme contacts

**Stephen On**  
Head of Department  
E: [Stephen.On@lincoln.ac.nz](mailto:Stephen.On@lincoln.ac.nz)  
P: 03 423 0638

**Keegan Burrow**  
Lecturer  
E: [Keegan.Burrow@lincoln.ac.nz](mailto:Keegan.Burrow@lincoln.ac.nz)  
P: 03 423 0614

For more information or to apply visit [www.lincoln.ac.nz](http://www.lincoln.ac.nz) or call 0800 10 60 10.

I looked at food science programmes all over the world and eventually chose Lincoln, due to the university's solid reputation.

Sofia Echeuerria Portillo  
Bachelor of Science | Food Science major

# Bachelor of Science | Plant and Horticultural Sciences major

The horticultural sector plays a pivotal role in shaping Aotearoa’s economic landscape and there’s a growing demand for a qualified workforce. With the Bachelor of Science, majoring in Plant and Horticultural Sciences, you’ll unearth your potential in a thriving industry.

This degree helps you develop critical knowledge in applied plant production, integrated pest management and problem solving. With a clear focus on sustainability, the programme will prepare you to make a real difference in any number of technical, advocacy and management roles.

You will also benefit from working at our Living Laboratory, an outdoor setting on campus that brings together research partners and students to explore challenges facing our world. You will increase your hands-on experience of the different aspects of horticultural productio

**Key features**  
After completing this degree, you will be able to:

- Explain how horticultural plants grow in relation to soil, temperature, water, light and nutrition
- Understand the principles and practices concerning pruning, training and harvesting of horticultural crops
- Discuss the significance of sustainable production, integrated pest management and how Mātauranga Māori can be integrated and applied in commercial field operations

- Describe the different plant growth regulators and how these interact in horticultural production systems
- Identify the different controlled environment production systems, including managing an indoor climate and understanding growing media and fertilisers utilised in horticultural production systems
- Integrate knowledge and skills from different disciplines to help solve complex problems in a wide range of plant and horticultural sciences industries

**Career opportunities**

Armed with this degree, you’ll be prepared to undertake a wide range of technical, advocacy and management roles across the agriculture and horticultural production industries.

**Entry requirements**

University Entrance through NCEA, or an approved equivalent qualification  
If English is not your first language other entry requirements will apply. Learn more about English language requirements here: [www.lincoln.ac.nz/english-requirements](http://www.lincoln.ac.nz/english-requirements)

**Recommended preparation**

- Biology\*
- Chemistry\*
- English\*
- Māori Studies
- Maths/Statistics\*

\*Highly recommended subjects

**Intake semesters**

- You can start in either:
- Semester 1 (late February)
  - Semester 2 (mid July)\*

There are also options for starting in summer semesters, although the range of courses available would be limited.

\*Please obtain course advice if you are thinking about this option.

**Additional major**

There may be an opportunity to add an additional major to your programme of study. Please refer to the programme course advisor for further information.

Duration (Years)

3

Intake (Semesters)

1 2



**Typical degree structure**

Year 1							
BIOS 110	PHSC 101	SOSC 106	PLSC 104	ECOL 103	HORT 107	HORT 109	MAST 120
Year 2							
QMET 201	PLSC 201	PLPT 203	HORT 222	HORT 272	Elective	Elective	Elective
Year 3							
QMET 306	PLSC 325	HORT 330	PLPT 305	PLPT 306	Elective	Elective	Elective

Compulsory course Elective course

Please note this degree structure is indicative only. A course advisor can assist you to select your electives and plan your degree.

**Programme contact**

Pieter-Willem Hendriks  
Course Advisor  
E: [Pieter-Willem.Hendriks@lincoln.ac.nz](mailto:Pieter-Willem.Hendriks@lincoln.ac.nz)  
P: 03 423 0637

For more information or to apply visit [www.lincoln.ac.nz](http://www.lincoln.ac.nz) or call 0800 10 60 10.

I looked at food science programmes all over the world and eventually chose Lincoln, due to the university’s solid reputation.

Sofia Echeuerria Portillo  
Lincoln University science graduate



# Bachelor of Viticulture and Oenology

This degree covers basic science preparation, advanced viticulture and wine science, pest and disease management, biometrics and wine chemistry. Our graduates are highly sought-after and if you're one of them, you can look forward to great career opportunities all over the world.

Behind every great wine there's a lot of high quality science and sound management. This specialist degree will prepare you for a rewarding career in an industry that can take you to some of the best places in the world. Here's to that.

### Key features

- Receive a solid grounding in the sciences, including biology, chemistry, and plant, soil and wine science
- Gain the practical experience of producing your own wine
- Discover the essentials of horticultural systems
- Learn the principles of wine science and wine quality assessment
- Develop an understanding of the wine supply chain from plant and soil sciences through to marketing and management of wine products and organisations
- Take advantage of Lincoln's expertise, with the university having delivered one of the first cool climate wine production programmes

### Career opportunities

Employment options in the wine industry are many and varied. Work in areas such as grape-growing, vineyard management, cellar management, winery lab management, winemaking, marketing management and sales.

### Entry requirements

University Entrance through NCEA, or an approved equivalent qualification. If English is not your first language other entry requirements will apply. Learn more about English language requirements here: [www.lincoln.ac.nz/english-requirements](http://www.lincoln.ac.nz/english-requirements)

### Recommended preparation

- Agriculture/Horticulture
- Biology\*
- Chemistry\*
- Computing
- English\*
- Māori Studies
- Maths/Statistics

\*Highly recommended subjects

### Intake semesters

You can start in either:

- Semester 1 (late February)
- Semester 2 (mid July)\*

There are also options for starting in summer semesters, although the range of courses available would be limited.

\*Please obtain course advice if you are thinking about this option.

### Additional major

There may be an opportunity to add an additional major to your programme of study. Please refer to the programme course advisor for further information.

### Practical work

You'll need to complete 18 weeks of practical work during your degree. This must include a minimum of 6 consecutive weeks in both:

- A commercial vineyard
- A commercial winery

In addition to this, you can complete 6 weeks practical work in an allied industry such as wine bar or shop, winery laboratory or brewery. Alternatively, you can complete up to 12 weeks in your vineyard or winery practical work placement.

For more information, please email the Practical Work Coordinator at [practicalwork@lincoln.ac.nz](mailto:practicalwork@lincoln.ac.nz) or phone +64 3 423 0061.

Duration (Years)

3

Intake (Semesters)

12



### Typical degree structure:

Year 1							
BIOS 110	PHSC 101	WINE 101	SOSC 106	PLSC 104	Elective	Elective	Elective
Year 2							
WINE 201	MGMT 214	WINE 202	QMET 201	WINE 302	Elective	Elective	Elective
Year 3							
WINE 301	ENGN 361	MGMT 344	PLPT 323	WINE 304	Elective	Elective	Elective

Please note this degree structure is indicative only. A course advisor can assist you to select your electives and plan your degree.

■ Compulsory course   ■ Elective course   ■ Select at least two of four courses

### Programme contact

**Olaf Schelezki**  
Course Advisor  
E: [olaf.schelezki@lincoln.ac.nz](mailto:olaf.schelezki@lincoln.ac.nz)  
P: 03 423 0879

➔ For more information or to apply visit [www.lincoln.ac.nz](http://www.lincoln.ac.nz) or call 0800 10 60 10.

The type of programme I was looking for wasn't offered at other universities, and it made sense to study plants at a university with a strong land-based history.

**Len Ibbotson**  
Bachelor of Viticulture and Oenology

# Additional majors

**Studying for a Bachelor's degree? You can include an additional major, which will supplement your degree programme with meaningful study in a complementary discipline.**

## Accounting

Develop the accounting-based knowledge and skills to pursue a wide variety of business careers. This major will massively increase your employability, especially when coupled with a core business major. Learn to evaluate accounting issues in a business environment, use the latest tools and techniques to solve accounting problems and prepare and analyse accounting and finance reports.

### Courses

The Accounting major consists of eight courses: one 100-level course, four 200-level courses and three 300-level courses. Courses selected at the 300-level for the major cannot be applied to any other qualification.

## Facilities Management

Gain a sound understanding of building form, function, materials, maintenance, processes and facility and corporate legislation. You will be equipped with the knowledge and skills required to develop and manage complex portfolios of real estate assets.

### Courses

The major consists of eight courses, three at 100-level, two at 200-level and three at 300-level.

## Economics

Use economics to solve real-world problems and gain the expertise to help address a range of global issues. You'll develop the ability to quantitatively analyse New Zealand value chains (from primary production to end consumers), a skill that is highly sought-after by employers.

### Courses

The Economics major consists of eight courses: two 100-level courses, three 200-level courses and three 300-level courses. Courses selected at the 300-level for the major cannot be applied to any other qualification.

## Environmental Management

This major is strongly aligned with Agriculture, Environmental Science, Tourism Management, Land and Property Management, Landscape Architecture and Recreation Management. If you're studying for one of these degrees, this major will provide you with essential environmental management skills, leading to employment in the profession.

The public and political interest in environmental issues across a broad range of industries, along with increased media coverage, is likely to increase the importance of the environment in employers' minds and

create more careers for people with environmental management skills.

### Courses

This major consists of eight courses, which is one-third of a 24-course degree. At least three of the courses are at the 300-level and no more than three can be taken at the 100-level. Courses selected at the 300-level cannot be applied to any other qualification.

## Event Management

Gain the expertise to pursue a career as an event professional in a range of industries. Event management is a growing area of specialisation at tertiary institutions throughout Australasia and the world. The significance of events has spread beyond the traditional realm of tourism, sport and the arts into the corporate world and a range of other sectors, including hospitality and wine and food production. Corporations, organisations and local councils appreciate the value that events and festivals bring to businesses and local economies as they help to facilitate their role in encouraging community development and engagement.

### Courses

The Event Management major consists of eight courses – three 100-level courses, two 200-level courses and three 300-level courses. Courses selected at the 300-level cannot be applied to any other qualification.

## Finance

Finance lies at the heart of business operations and is a dynamic field within the modern global economy. Develop the advanced knowledge and skills to become a finance expert so that when you join the workforce, you can effectively adapt to a rapidly changing business environment. As New Zealand becomes more dependent on global value chains, greater numbers of university graduates will be required in many industries.

### Courses

The Finance major consists of eight courses: three 100-level courses, two 200-level courses and three 300-level courses. Courses selected at the 300-level for the major cannot be applied to any other qualification.

## Global Business

Learn the management techniques required to run global organisations. Develop leadership and strategy skills and have the option of specialising in international marketing, international economics, or business sustainability management.

An emphasis on internationalisation of management, as well as management functions in multinational corporations, will offer employment opportunities all over the world.

### Courses

The Global Business major consists of eight courses: two 100-level courses, three 200-level courses and three 300-level courses. Courses selected at the 300-level for the major cannot be applied to any other qualification.

## Marketing

Develop the expertise to make the right marketing decisions for businesses, consumers, society and the environment. Become aware of the profession's social, ethical, moral and legal standards and their impact on society. You'll learn the concepts and tools to be a productive and responsible marketing professional.

### Courses

The Marketing major consists of seven courses: two 100-level courses, two 200-level courses and three 300-level courses. Courses selected at the 300-level for the major cannot be applied to any other qualification.

## Parks and Outdoor Recreation

The major in Parks and Outdoor Recreation is a multidisciplinary programme bringing together areas of social and ecological science to give a holistic approach to this field of study, equipping students for public and private sector roles in parks and reserves management, visitor services, recreation policy and planning or nature-based tourism.

### Courses

This major consists of eight courses, which is one-third of a 24-course degree. Courses selected at the 300-level cannot be applied to any other qualification.

### DOC Scholarship

The Department of Conservation (DOC) is offering a number of \$5,000 scholarships to talented Lincoln bachelor's degree students undertaking this major. DOC is looking for qualified individuals who can think and plan strategically for tourism on a landscape scale. DOC is also interested in graduates with multi-disciplinary skills in general management, working with iwi, whānau and hapū, visitor and facilities management and partnering skills to help DOC work with others to grow conservation. For more information and application details, visit [lincoln.ac.nz/scholarships](http://lincoln.ac.nz/scholarships)

## Supply Chain Management

New Zealand is becoming more dependent on long, complex and vulnerable global supply chains for both imports and exports. Gain a solid grounding in sustainable supply chain practices and the legal framework of global business and prepare to work in supply chain managerial roles within any land-based, manufacturing or service industry. Supply chain management is taught from a systems perspective, to add value to producers, distributors and consumers.

### Courses

The Supply Chain Management major consists of eight courses: two 100-level courses, three 200-level courses and three 300-level courses. Courses selected at the 300-level for the major cannot be applied to any other qualification.

## Tourism Management

A knowledge of tourism adds an extra level of expertise if you would like to work in a range of organisations charged with protecting the physical environment. To be more effective, planners, designers and developers need to understand the behaviour of tourists. Understanding the commercial differences of tourism compared with other sectors of the economy will be invaluable if you're studying for a business degree.

### Courses

The Tourism Management major consists of eight courses from the Bachelor of Sustainable Tourism (75 credits). In addition, there are a number of 'soft core' options (30 credits). Courses selected at the 300-level cannot be applied to any other qualification.

## Water Management

Water management is a particular challenge for New Zealand, given that the nation's primary and tourism sectors are underpinned by high-quality fresh water and ecologically sustainable waterways. Yet waterways are diminishing in quality and water is over-allocated in many sub-regions. Develop the water management knowledge and skills to enter a career in the water, land or environmental management sector.

### Courses

The Water Management major consists of eight courses, which is one-third of a 24-course degree. Courses selected at the 300-level cannot be applied to any other qualification.

Please note that some additional majors cannot be included with some degrees. Please seek course advice if you wish to complete an additional major.



# Choose an additional major

If you're studying for a Lincoln University Bachelor's degree, you may be able to include an additional major, which will add depth to your qualification. Please speak to your course advisor to ensure you pick up the right courses for you.

This table will help you to work out which additional majors you can study within your chosen degree.

Degree	Accounting	Facilities Management	Economics	Environmental Management	Event Management	Finance	Global Business	Marketing	Parks and Outdoor Recreation	Supply Chain Management	Tourism Management	Water Management
Bachelor of Agricultural Science	•	•	•	✓	•	•	•	•	•	•	•	✓
Bachelor of Science (Individual)	•	•	•	✓	•	•	•	•	✓	•	✓	✓
Bachelor of Science (Animal Science)	•	•	•	•	•	•	•	•	•	•	•	•
Bachelor of Science (Brewing and Fermentation)	•	•	•	•	•	•	•	•	•	•	•	•
Bachelor of Science (Conservation and Ecology)	•	•	•	✓	•	•	•	•	✓	•	✓	✓
Bachelor of Science (Environmental Science)	•	•	•	✓	•	•	•	•	✓	•	•	✓
Bachelor of Science (Innovation)	•	•	•	•	•	•	•	•	•	•	•	•
Bachelor of Science (Plant and Horticultural Sciences)*	•	•	•	•	•	•	•	•	•	•	•	•
Bachelor of Viticulture and Oenology	•	•	•	•	•	•	•	•	•	•	•	•

✓ Additional major may be available      • Seek course advice

# Missed out on University Entrance?

Look no further than our pathway options, which will lead you into a Bachelor's degree programme.

The Pathway Certificate (Foundation) will help you gain a grounding in academic studies and set you on your way to life at Lincoln University.

You'll gain a solid foundation in academic writing, mathematics and statistics, science or environment.

When you've completed the Pathway Certificate (Foundation), you'll be able to progress on to the First-Year Pathway Diploma, and then onto to a Bachelor's degree.

The First-Year Pathway Diploma provides a firm academic grounding while allowing you to work towards your future degree.

You'll develop your academic skills and study a range of courses from our Bachelor's programmes.

➔ For more information visit [www.lincoln.ac.nz/pc](http://www.lincoln.ac.nz/pc) and [www.lincoln.ac.nz/pd](http://www.lincoln.ac.nz/pd)



# Careers

Employers are always on the hunt for Lincoln graduates and our degrees open doors. Learn about some of the career opportunities that could come knocking once you've finished studying.

## Agricultural/Horticultural Scientist Kaipūtaiao Ahuwhenua

Agricultural/horticultural scientists study farm animals, soils, pastures and crops to improve growth, health and quality, and to prevent pests and disease.



This profile is abridged from the CareersNZ website. For a more detailed profile, visit [www.careers.govt.nz/jobs-database/farming-fishing-forestry-and-mining/agriculture-horticulture/agriculturalhorticultural-scientist/](http://www.careers.govt.nz/jobs-database/farming-fishing-forestry-and-mining/agriculture-horticulture/agriculturalhorticultural-scientist/)



**Pay per year**  
Graduate  
**\$65k–\$75k**  
Senior  
**\$80k–\$150k**



**Job opportunities**  
**Good**  
due to strong demand

### Pay

Pay for agricultural/horticultural scientists varies depending on qualifications, experience, and the type of work they do.

- Graduates with a doctorate usually earn \$65,000 to \$75,000 a year
- After three to five years, agricultural/horticultural scientists usually earn \$75,000 to \$90,000
- Senior agricultural/horticultural scientists may earn \$80,000 to \$150,000

### What you will do

Agricultural/horticultural scientists may do some or all of the following:

- research and advise on animal or plant diseases, pest control, and chemical use
- develop better methods of managing farms and orchards
- study the effects of agriculture and horticulture on the environment
- oversee new projects and field research
- research and write reports based on field study, and present results
- share research findings with other scientists, companies and government agencies
- write applications for research funding and manage budgets
- train and supervise lab technicians, research teams and field workers
- make sure all scientific work meets legal requirements

### Working conditions

Agricultural/horticultural scientists:

- usually work regular business hours. They may work irregular or longer hours when doing fieldwork and research
- work in offices, laboratories and glasshouses, and on farms, orchards and nurseries
- may travel locally to talk to farmers and growers, and overseas to attend conferences or work on international research projects

### Entry requirements

To become an agricultural/horticultural scientist, you need a doctorate in science in an area such as:

- agricultural science
- microbiology
- biochemistry

Agricultural/horticultural scientists in research positions usually apply for a postdoctoral fellowship after completing a doctorate.

You may need to do two or three postdoctoral fellowships (usually lasting two or three years each) before getting a permanent scientist position.

### Personal requirements

Agricultural/horticultural scientists need to be:

- accurate
- observant
- organised
- decisive
- good at solving problems
- good at communicating
- practical
- able to work well alone and in a team.

### What are the chances of getting a job?

#### Good demand for agricultural/horticultural scientists

Growing demand means opportunities for agricultural/horticultural scientists are good.

According to the Ministry of Business, Innovation and Employment, the amount of work for scientists has been increasing. It is expected to grow significantly until 2023, and then continue growing at 1.8% per year until 2028.

According to the Census, 714 agricultural/horticultural scientists worked in New Zealand in 2018.

### Increased funding means more jobs for agricultural/horticultural scientists

In the 2019 Budget, the Government announced increased funding for some primary sector areas. As a result, opportunities for agricultural/horticultural scientists are best in:

- animal welfare
- biosecurity
- environment and conservation
- food safety
- sustainable land use

Chances in these areas are particularly good for agricultural/horticultural scientists with experience in:

- analysing and monitoring climate and environmental conditions
- producing research and reports that inform government policy and legislation
- researching and monitoring sustainable land and water use
- scientific development, research and innovation projects

Demand is strongest for scientists who specialise in environmental research.

### Types of employers varied

Agricultural/horticultural scientists may work for:

- agricultural and horticultural equipment suppliers
- animal and plant feed developers and manufacturers
- chemical companies producing fertilisers and similar products
- consultancy companies – for example, those doing environmental assessments for resource consents
- government departments and local councils
- universities and research institutes

This information is a guide only.  
Last updated 6 December 2019



# Environmental Scientist

## Kaipūtaiao Ao Tūroa

Environmental scientists study human effects on the environment such as climate change, pollution and loss of biodiversity. They also advise on how to avoid or reduce these harmful effects.



This profile is abridged from the CareersNZ website. For a more detailed profile, visit [www.careers.govt.nz/jobs-database/animal-care-and-conservation/conservation/environmental-scientist/](http://www.careers.govt.nz/jobs-database/animal-care-and-conservation/conservation/environmental-scientist/)

### Pay

Pay for environmental scientists varies depending on skills, experience and they type of work they do

- Graduate environmental scientists usually start on about \$58,000 to \$91,000 a year
- Senior environmental scientists with a Masters and five years' experience can earn up to \$108,000
- Environmental scientists with a postdoctoral degree who work at research institutes can earn from \$85,000 to \$150,000

### What you will do

Environmental scientists may do some or all of the following:

- Study plants and animals in their environment
- Assess sources of soil, water and air pollution, and develop ways to control these
- Use computer modelling techniques to predict future events in the ecosystem
- Study soil types and suitable fertilisers
- Study how to alter soils to suit different plants
- Develop efficient irrigation, drainage and waste disposal methods
- Plan and run field studies and experiments
- Prepare reports on the environmental impacts of activities such as mining, forestry and agriculture
- Report results of studies in science journals and in conferences
- Study and develop environmental policies
- Provide technical advice to clients or local government authorities
- Prepare applications for resource consent on behalf of clients, in compliance with the Resource Management Act

### Working conditions

Environmental scientists:

- Usually work regular business hours, but may be required to work weekends and evenings to meet deadlines
- Usually work in offices, but may work outdoors when collecting samples or visiting sites
- May travel nationally and overseas to work on projects

### Entry requirements

To become an environmental scientist you usually need to have a Master's degree in one of the following areas, depending on your specialisation:

- Environmental science or a related area such as chemistry or engineering
- Ecology or a related area such as botany or zoology
- Soil science or a related discipline such as earth science

A PhD is usually required for research-based positions.

### Personal requirements

Environmental scientists need to be:

- Accurate
- Able to make good judgements
- Good at problem solving
- Good at planning and organising
- Good at communicating
- Creative, so they can develop new ideas

### What are the chances of getting a job?

#### Strong demand for environmental scientists

Chances of getting work as an environmental scientist are good because the Government has made climate change a priority but there is a shortage of environmental scientists.

Demand for environmental research is growing because of increased pressure on the environment from population growth, urban expansion and the effects of industry.



Pay per year  
**\$76k-\$163k**



Job opportunities  
**Good**  
due to strong demand

Environmental research scientist appears on Immigration New Zealand's long-term skill shortage list. This means the Government is actively encouraging skilled environmental scientists from overseas to work in New Zealand.

### Good opportunities in a range of industries

There are good opportunities for environmental scientists with a policy or evaluation focus to work for primary sector industries on land or at sea, regional and local councils, and government environmental ministries and agencies.

There is high demand for environmental scientists who can monitor the impacts of industrial activities on the environment, manage resource consents, provide advice on minimising environmental footprints, and consult and engage with stakeholders.

### Types of employers varied

Environmental scientists who do academic research mainly work for:

- Crown research institutes
- Government departments such as Landcare Research or Department of Conservation
- Universities

Environmental scientists who do policy or evaluation work may be employed by:

- Regional, city and district councils
- Government departments and Crown entities
- Private consultancies and companies

This information is a guide only.  
Last updated 24 May 2021

# Zoologist

## Kaipūtaiao Kararehe

Zoologists study animals and their behaviour in the wild or in captivity, and how they interact with other species and their environments.



This profile is abridged from the CareersNZ website. For a more detailed profile, visit [www.careers.govt.nz/jobs-database/science/science/zoologist/](http://www.careers.govt.nz/jobs-database/science/science/zoologist/)

### Pay

Pay for zoologists varies depending on qualifications, experience and where they work.

- Zoologists working in universities
- Zoology assistant lecturers and junior researchers usually earn between \$56,000 and \$61,000 a year
  - Lecturers in zoology and research officers usually earn between \$61,000 and \$124,000
  - Zoology professors can earn between \$124,000 and \$185,000

Zoologists working in government research agencies

- Zoology technicians usually earn between \$42,000 and \$52,000 a year
- Senior zoology technicians usually earn between \$52,000 and \$61,000
- Zoology scientists usually earn between \$61,000 and \$117,000
- Senior zoology scientists can earn between \$117,000 and \$140,000

Zoologists working in the private sector may earn more than this.

### What you will do

Zoologists may do some or all of the following:

- Study animals and their behaviour
- Study the relationship between animals and their environment
- Do research into areas such as pest control or conservation
- Do laboratory work and fieldwork
- Manage the care of animals in research centres, zoos and aquariums
- Teach university students
- Write reports and scientific articles
- Give talks to community groups and local authorities
- Advise local authorities and iwi on how to manage animal species sustainably

### Working conditions

Zoologists:

- Usually work regular business hours, but may also work evenings and weekends
- Work in laboratories, offices, and outdoors in areas such as national parks and wildlife reserves
- May work with drugs and chemicals and be exposed to animal diseases
- May work outdoors in all weather conditions
- Often travel locally, nationally and overseas to work on projects or to attend conferences

### Entry requirements

To become a zoologist, you need to have a Bachelor of Science majoring in any of the following subjects:

- Ecology
- Zoology
- Microbiology
- Biotechnology
- Molecular biology

Postgraduate qualifications, such as a Master's degree or PhD, are recommended for those wanting to work in senior research roles.

For research-based work at the technician level, a bachelor's degree in a related science subject is the minimum entry requirement. Though many skills are learned at university, zoologists continue to develop their laboratory and experimental skills on the job.

### Personal requirements

Zoologists need to be:

- Enquiring and observant
- Practical and accurate
- Patient and logical
- Good at problem solving
- Well organised, with good planning skills
- Skilled at writing and presenting information
- Good at research
- Able to cope with experimenting on live animals



Pay per year  
Graduate  
**\$42k-\$61k**  
Senior  
**\$57k-\$132k**



Job opportunities  
**Average**  
due to consistent demand

### What are the chances of getting a job?

#### Small numbers of zoologists

There are limited opportunities for zoologists and roles are mainly within universities or crown research institutes.

According to Stats NZ, the number of zoologists in New Zealand is around 100.

Zoology graduates tend to use their qualification in a variety of applied zoology roles in fields such as teaching, environmental research and pharmaceutical research.

### Good opportunities for zoology graduates in environmental research

Job opportunities in environmental research are good for zoology graduates due to an increased need to protect the natural environment and a shortage of people with suitable qualifications.

Environmental research scientist appears on Immigration New Zealand's long-term skill shortage list. This means the Government is actively encouraging skilled environmental research scientists from overseas to work in New Zealand.

### Types of employers varied

Zoologists can work for:

- Crown research institutes (CRIs) such as NIWA
- Government agencies such as the Department of Conservation
- Consultancies, including those studying environmental impacts of building developments
- Private companies, including those doing pest control
- Regional councils
- Museums
- Universities

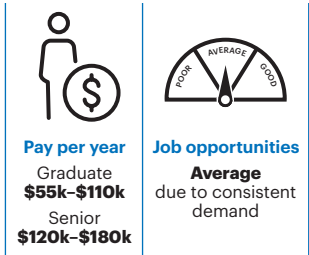
This information is a guide only.  
Last updated 12 May 2021

# Orchard Farmer/Manager

Orchard farmers/managers plan and manage fruit and nut production in orchards.



This profile is abridged from the CareersNZ website. For a more detailed profile, visit [www.careers.govt.nz/jobs-database/farming-fishing-forestry-and-mining/agriculture-horticulture/orchard-farmer-manager](http://www.careers.govt.nz/jobs-database/farming-fishing-forestry-and-mining/agriculture-horticulture/orchard-farmer-manager)



## Pay

Pay for orchard farmers/managers varies depending on:

- Orchard size
- Orchard profitability, which may vary from season to season
- Prices received for the fruit or nuts
- Orchard farmers/managers with up to five years' experience usually earn between \$55,000 and \$110,000 a year
- Orchard farmers/managers who work for large organisations can earn between \$120,000 and \$180,000

## What you will do

Orchard farmers/managers may do some or all of the following:

- Decide what fruit or nuts to grow
- Cultivate land and plan orchards
- Plant trees or shrubs, and monitor growth
- Ensure trees and shrubs are watered, fertilised and pruned, and are healthy
- Manage irrigation and frost protection
- Organise the harvesting, grading and packing of fruit or nuts, and arrange for sale and transport
- Buy seed, trees, fertiliser, machinery and other orchard materials
- Check, clean and maintain orchard equipment
- Train, organise and supervise orchard workers and contractors
- Ensure that food safety, health and safety, and other regulations are complied with
- Keep production and financial records

## Working conditions

Orchard farmers/managers:

- Usually work between eight and 10 hours a day, but during peak seasonal harvest and planting times may work longer hours, including weekends
- Work outdoors or in packhouses and offices
- Work in all weather conditions, with machinery and chemicals that can be dangerous
- May have to travel locally between orchards and to markets or suppliers

## Entry requirements

There are no specific entry requirements to become an orchard farmer/manager but a diploma or science degree in horticulture is recommended.

## Extra requirements for chemical spraying

If your job requires agrichemical spraying you need a certificate from approved providers such as Growsafe.

## Personal requirements

Orchard farmers/managers need to be:

- Good administrators, with business planning skills
- Good communicators and managers
- Able to work well in a team and under pressure

## What are the chances of getting a job?

### Growing demand for orchard farmers/managers

Demand for orchard farmers/managers is increasing as the horticulture industry continues to grow.

Orchard farmers/managers are particularly in demand because:

- there are not enough New Zealanders available to do the work
- The horticulture industry is expected to grow and increase its export revenue to over \$5 billion in 2023

- Orchards are getting larger and more complex, and require advanced soil and orchard management skills to achieve greater productivity

## High competition for orchard farmer/manager positions

Staff turnover is low for orchard farmer/manager positions so competition can be high when vacancies arise.

However, it can still be difficult to find suitable people for orchard manager vacancies due to lack of experience and expertise.

According to the Census, there were about 4,500 fruit and nut growers (across all horticulture sectors) working in New Zealand in 2018.

## Types of employers varied

Orchard farmers/managers can work for private orchard owners, businesses or grower companies that may own one or more orchards.

Orchard farmers/managers can also be self-employed and own their own orchards.

This information is a guide only.  
Last updated 9 April 2020

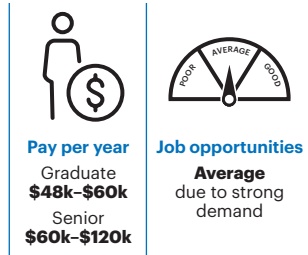
# Brewer

## Kaitoroī

Brewers use brewing equipment and processes to convert malted barley or other grains into beer, and control or manage the production and packaging of beer.



This profile is abridged from the CareersNZ website. For a more detailed profile, visit [www.careers.govt.nz/jobs-database/manufacturing/manufacturing/brewer](http://www.careers.govt.nz/jobs-database/manufacturing/manufacturing/brewer)



## Pay

Pay for brewers varies depending on experience and location.

- New brewers usually earn up to \$42,000 a year
- Brewers with five years' experience can earn between \$40,000 and \$60,000
- Brewery managers can earn from \$60,000 to \$120,000

## What you will do

Brewers may do some or all of the following:

- Select and check the type of malted barley or grain needed to make a brand of beer
- Add hops, yeast, hot or cold water and other ingredients at the correct times
- Operate computerised machinery that controls the brewing process
- Monitor the temperature, acidity, fermentation and colour of beer throughout the brewing process
- Sterilise and maintain brewing equipment
- Package beer and deliver it locally
- Monitor the costs of production, do stock counts, and order ingredients
- Manage a team of brewery workers

## Working conditions

Brewers:

- Usually work regular business hours, but may do shift work and weekend work
- Work in laboratories, brew houses, brewpubs or small craft breweries
- Work in conditions that can be hot, cold, noisy or wet
- May be required to work in enclosed spaces

## Entry requirements

There are no specific requirements to become a brewer. However, employers often prefer you to have a qualification such as a Bachelor of Science (in food science, brewing & fermentation, biochemistry, microbiology or chemical or process engineering).

## Personal requirements

Brewers need to be:

- Able to take the initiative
- Practical and efficient
- Accurate, with an eye for detail
- Patient and reliable
- Able to work well in a team
- Skilled in communicating with others
- Good at solving problems

## What are the chances of getting a job?

### Craft beer industry creating more roles

The number of independent or craft breweries is growing to meet increasing demand in New Zealand. Increased production of craft beer is creating more brewer, assistant brewer and brewery assistant jobs.

Brewers may have more of a chance at securing a job if they apply at independent breweries.

## Chances best if you have experience

Employers report difficulty finding skilled brewers, so your chances of securing a job are best if you have relevant experience, which you can gain as part of your studies at Lincoln.

According to the Census, 504 brewers and 561 cellar hands worked in New Zealand in 2018.

## Two main types of employers

Brewers may work for large or independent breweries. Lion Pty Ltd and DB Breweries Ltd are the largest beer producers in New Zealand.

Independent or craft breweries usually have teams of up to 20 brewers who share a variety of different responsibilities.

This information is a guide only.  
Last updated 4 May 2021





**I decided to study food science because I'm interested in nutrition and am wanting to work in that area.**

**Laurn Hippolite**  
Recent graduate of the  
Bachelor of Science | Food Science major



## Food Technologist Kaihangarau Kai

Food technologists research, develop and improve food and drink products. They may also be involved in the processing, packaging, storage and safety of food to meet government and industry standards.



This profile is abridged from the CareersNZ website. For a more detailed profile, visit [www.careers.govt.nz/jobs-database/science/science/food-technologist/](http://www.careers.govt.nz/jobs-database/science/science/food-technologist/)



**Pay per year**  
Graduate  
**\$50k-\$75k**  
Senior  
**\$50k-\$140k**



**Job opportunities**  
**Good**  
due to strong demand

### Pay

Pay for food technologists varies depending on skills and experience.

- Graduate food technologists usually earn \$50,000 to \$60,000 a year
- Food technologists with two to four years' experience usually earn \$60,000 to \$75,000
- Senior food technologists with five or more years' experience can earn \$75,000 to \$100,000

### What you will do

Food technologists may do some or all of the following:

- Develop new or improve current food and drinks
- Make test samples of food products and conduct trials
- Source and select ingredients for food products
- Manage or supervise development and production of food and drinks
- Improve efficiency of manufacturing processes
- Develop new or improve current food packaging
- Ensure food products meet specifications and standards (quality assurance)
- Investigate the nutritional properties of foods

### Working conditions

Food technologists:

- Usually work regular business hours, but may need to run factory trials at night or on weekends
- Usually work in laboratories, offices or factories
- May travel overseas to clients' companies or factories, and attend local or international conferences and trade shows

### Entry requirements

- To become a food technologist most employers require you to have a Bachelor's degree in food technology, food science or food engineering. A Master's degree is preferred.
- Food technologists often complete on-the-job training programmes for specific products and processes

### Personal requirements

Food technologists need to be:

- Accurate
- Patient and persistent
- Able to work well under pressure
- Good at problem solving
- Good at planning and organising

### What are the chances of getting a job?

#### Shortage of skilled food technologists

Demand for food technologists is expected to continue as the number of positions will grow 3% a year until 2026, according to the Ministry of Business, Innovation and Employment. Demand is strongest for qualified food technologists with three to seven years' experience.

However, the number of skilled, qualified food technologists is insufficient to meet demand. As a result, food technologist appears on Immigration New Zealand's long-term skill shortage list. This means the Government is actively encouraging skilled food technologists from overseas to work in New Zealand.

### Strong prospects for graduates with process engineering knowledge and industry experience

Some large food technology companies may have graduate recruitment programmes. Employers prefer graduates with broader qualifications that include some process engineering, rather than just food science.

A postgraduate diploma can improve your chances of getting work if it includes an applied project for a food manufacturing company and getting hands-on industry experience.

### Types of employers varied

Most food technologists work for:

- Food manufacturing companies such as dairy processing companies, breweries, food and vegetable processing companies, cereal manufacturers and commercial bakeries
- Private food research institutes such as Fonterra Research and Development Centre
- Crown research institutes such as AgResearch and Plant & Food Research
- Universities

This information is a guide only.  
Last updated 2 March 2021



# Growing careers

At Lincoln, growing the future is what we're all about. Meet some of our current and past students, who are well on their way to achieving their dreams.



## A student journey



**Sofia Echeverria**  
**Bachelor of Science | Food Science major**

When deciding on a location to study, Sofia Echeverria considered applying for programmes all over the world, but ultimately chose Lincoln's Bachelor of Science (Food Science), due to the university's solid reputation and her desire to live in beautiful New Zealand.

"I really liked the look of life in New Zealand and I was impressed with the sound of the food science degree at Lincoln," she says.

Hailing from the buzzing metropolis of Mexico City, Sofia describes Lincoln as "a really calm place".

"It was so relaxing. I loved it. It was such a contrast from the big, bustling city that I came from. The people were great and it's amazing to be able to make friends from all over the world."

Her degree, now reworked as the Bachelor of Science (Food Innovation major), prepares students to be drivers of the economy of the future, giving them the scientific and personal skills to make them highly employable all over the world.

Guest speakers from the food industry mean that students are able to meet potential employers as soon as they begin studying.

Sofia was impressed with the variety of opportunities available for her at Lincoln, including the chance to meet new people and travel with them during her holidays, join campus clubs (such as the tramping and Latin clubs), and plan for a fulfilling career.

"I really enjoyed the whole experience of being in a new country by myself and living in the Halls of Residence on campus," she says. "It helped me to grow in so many ways."

**Sofia describes Lincoln as a really calm place.**



**It was so relaxing here. I loved it. It was such a contrast from the big, bustling city that I come from. The people were great and it's amazing to be able to make friends from all over the world.**





# Graduate pathways



**Laura Keenan**  
**Bachelor of Agricultural Science**  
**(First Class Honours)**

**Director and Senior Consultant,  
KS Agri**

After graduating with a Bachelor of Agricultural Science (First Class Honours), Laura Keenan moved straight into a position as a Farm Environmental Consultant at a soil consultancy company.

Partly due to the strong networks she developed at Lincoln, she was headhunted for a role as an agronomist with Agricom.

She is now a director of KS Agri, an agricultural consultancy which she co-founded and where she is also a senior consultant. It offers farmers advice on nutrient management, freshwater farm plans, consent applications, auditing and facilitation.

Laura says her Lincoln degree thoroughly prepared her for these roles. "I found the agricultural and agribusiness courses really enjoyable and relevant to a future career. The research facilities are excellent as well. Completing a dissertation and research project also allowed me to grasp all elements of academic research and its importance in New Zealand agriculture."

Laura is now pursuing a PhD at Lincoln University, with a focus on improving the profitability and environmental outcomes of farm systems when using forage crops.



**Erin McIlmurray**  
**(nee Quinn-Walsh)**  
**Bachelor of Science (Hons)**

**Market Sector Manager -  
Agriculture, Hill Labs**

Erin McIlmurray was always fascinated by science and enjoyed studying biology. "I really like to explore the world, concepts, ideas – anything and everything. I like to experiment to find out why things do or don't work, and I love problem-solving."

Erin's passion led her to study for a Bachelor of Science. She graduated with Honours and started working at Livestock Improvement Corporation as a research assistant. Erin was able to apply her Honours research directly to her role. "I was involved in developing the breeding scheme for LIC's subsidiary Deer Improvement. My honours project was in deer reproduction, and my courses provided me with a good base understanding of epigenetics. This was an excellent first role for me to have."

When the opportunity arose to progress to a strategy analyst role, Erin was prepared. "My science degree meant that I could translate 'science' to others in the business and look at data and deriving stories which others can understand."

Erin's advice for prospective students is that a science degree can lead to many different opportunities. "A science degree doesn't mean that you have to work in science for the rest of your life. While it's a good place to start, a science degree teaches you a way of thinking that will be invaluable for the rest of your career."



**Hymmi Kong**  
**Bachelor of Science**

**Technical Business Analyst,  
Orion Health**

Hymmi Kong decided to attend Lincoln University following a recommendation from her older sister, who is also a Lincoln graduate. After graduating with her Bachelor of Science, she worked at Plant and Food Research during the summer break, before returning to Lincoln as an Honours student.

During her undergraduate studies, she particularly enjoyed participating in practical exercises, including lab sessions and field trips, as well as visiting farms and laboratories.

Hymmi appreciated the fact that the computer labs in the Landscape Architecture building were usually open until late at night, which allowed for flexible study hours. She also enjoyed the gym facilities and group exercise classes, and says they helped her to release stress after a long day.

Originally from Hong Kong, she was thrilled to meet a lot of fellow international students on campus and says spending time socialising with them added a great deal of extra joy to her university life. "We loved having gatherings in the weekends, as well as going on road trips during the breaks. We shared different stories to do with our lives and learned all about the cultures of different countries," she says.



**Len Ibbotson**  
**Bachelor of Viticulture and Oenology**

**Technical Services Lead (Horticulture),  
Syngenta Australia and New Zealand**

Len Ibbotson, originally from Hawke's Bay, chose to study for a Bachelor of Viticulture and Oenology, as the programme of study offered him the exact training he was looking for.

"Studying at Lincoln offered a good opportunity to travel to the South Island, which I wanted to do. It also made sense to study plants at a university with a strong land-based history," he says.

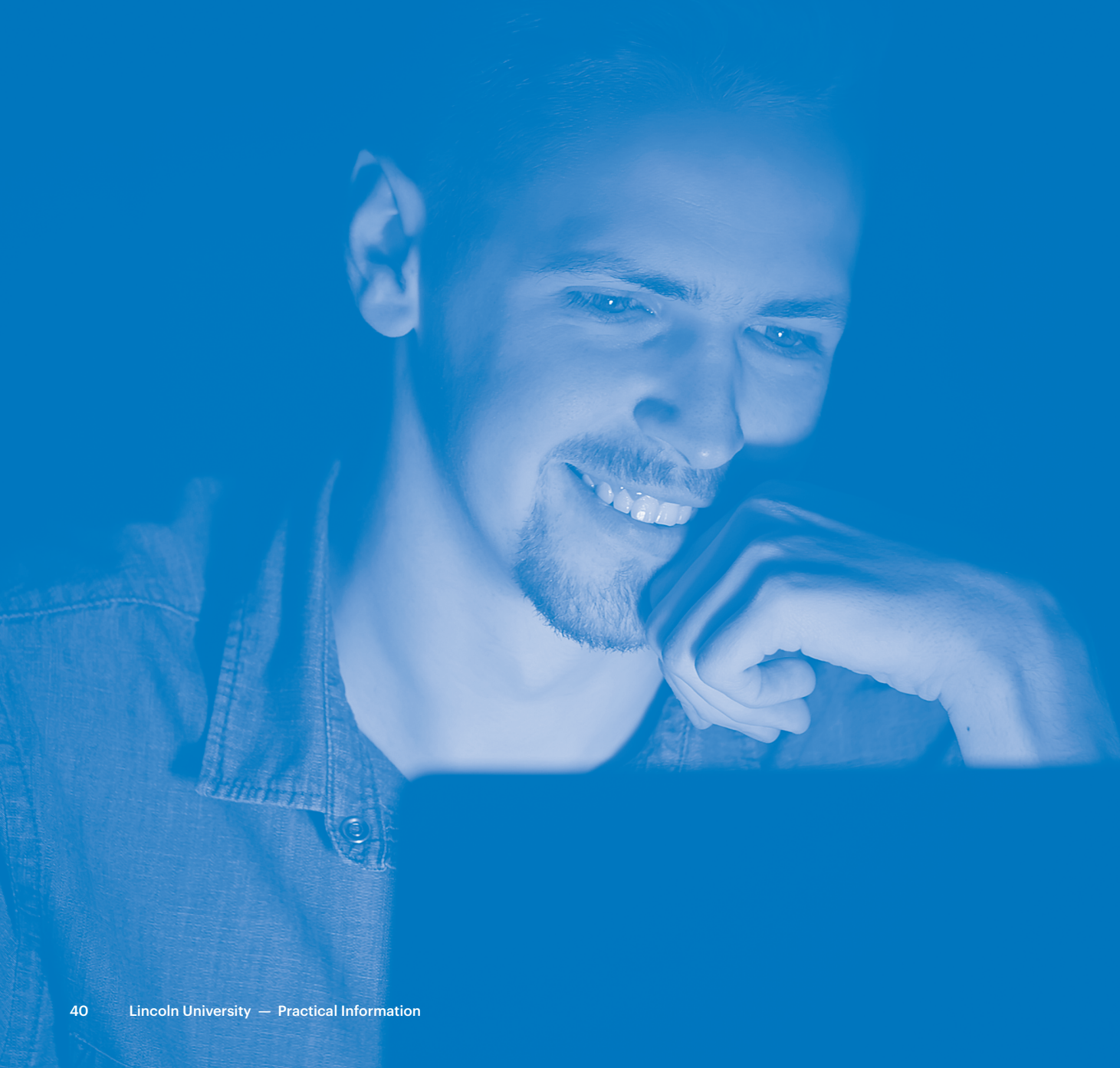
He was impressed with the choice and variety of courses available and says the lecturers and staff were enthusiastic, personable and very approachable.

Len says the most valuable aspect of his study was the balance between plant and wine science, and the practical wine and grape management tools he received.

"I have found that my degree is highly relevant to the wine-growing industry and provides sound theoretical knowledge, which enables recruitment and development," he says.

Len still keeps in touch with staff and friends from Lincoln and says he loved meeting many interesting people on campus.

# Practical information



## Practical work

Go beyond textbooks and the classroom and enjoy a range of practical learning opportunities as part of your degree.

Many of our programmes have a practical work component. It's considered a crucial aspect of study for some courses and offers experiences in a broad range of relevant careers.

You'll normally carry out practical work during summer breaks and it will be closely linked to the lecture material in your study programme. While it's your responsibility to find practical work placements, the Practical Work Coordinator can help by putting you in touch with employers who are already connected with us. You're strongly encouraged to seek out a diverse range of practical work opportunities.

### Why practical work?

Practical work will:

- Complement your studies and enhance the marketability of your qualification
- Give you a chance to experience new learning environments
- Expose you to the appropriate industry environment, including its technical, economic and social environments
- Teach you to perform a range of tasks specific to the industry environment including skills in observation, information gathering, data analysis, and report writing
- Equip you with more knowledge of industry employment opportunities



For more information, please contact the Practical Work Coordinator at [practicalwork@lincoln.ac.nz](mailto:practicalwork@lincoln.ac.nz) or +64 3 423 0061. Ask for a practical work handbook.



**I'm a hands-on person, so practical work gives me a better understanding of the course content.**

Kylie Lyders





# Key Dates and Events

Here are some of the events you won't want to miss as you consider your Lincoln journey.


Make sure you go to [www.lincoln.ac.nz/key-dates](http://www.lincoln.ac.nz/key-dates) for more info and the exact dates these exciting events take place.



### Information Evenings


Head to a central city venue and enjoy nibbles and beverages as you chat with academics from our areas of specialisation, network with existing students and find out more about accommodation, scholarships and the student experience.





### Halls application start/finish and moving in

Live on campus and get the full Lincoln experience. Halls applications open on 1 August, first offers are sent in October, and move-in is in February.





### Hui Whakatuwhera Open Day

Spend an entire day touring our campus and learning why Lincoln University is such a great place to study. Attend subject presentations and have all your questions answered by our friendly lecturers and current students.





### Scholarship applications

We have hundreds of scholarships available, including our Tihi Kahuraki, Future Leader and Sport Scholarships, which open in May and close in August. You can check them all out on our website, see if you meet the criteria, and find out all the closing dates.



### Enrolments

Enrolments open in October but you can apply anytime. Once we have offered you a place and you have accepted then you can begin the enrolment process.


### Rā Whakawhanaukataka - Orientation Day

Rā Whakawhanaukataka-Orientation Day brings together our new students to celebrate the start of their Lincoln University journey.

You'll meet other students, learn what it means to belong to the Lincoln whānau and find out what to expect in your first lectures.

### Preparation Week

Preparation Week is the perfect time for new and existing students to get assistance with completing to-do lists (including enrolment) and find your way around campus before the start of lectures.



### Semester dates

Semester 1 starts in February and Semester 2 in July, and you can start your study in either (as long as your course or programme is offered then), as well as Summer School which starts in November and again in January.

# Apply and enrol

Ready.  
Set.  
Grow.



Apply and enrol at  
[www.lincoln.ac.nz/apply](https://www.lincoln.ac.nz/apply)

# Contacts

## Lincoln University Te Waihora Campus

Ellesmere Junction Road/Springs Road  
PO Box 85084, Lincoln University  
Lincoln 7647  
Canterbury, New Zealand

E: [grow@lincoln.ac.nz](mailto:grow@lincoln.ac.nz)  
P: 0800 10 60 10 (NZ)  
P: +64 3 423 0000 (International)

## Student Liaison officers

Our Student Liaison team will be the first point of contact for you as a future student. They can give you all the information you need and answer any questions you may have about course planning, applying, or life at Lincoln, or they can refer you to an expert. The Student Liaison team also visits secondary schools and attends career expos in all regions.

E: [grow@lincoln.ac.nz](mailto:grow@lincoln.ac.nz)  
P: 0800 10 60 10  
P: +64 3 423 0000  
[www.lincoln.ac.nz/liaison](https://www.lincoln.ac.nz/liaison)

## Te Manutaki Office of Māori & Pasifika Development

The Māori and Pasifika team are here to support you on your educational journey, including study, scholarships, wellbeing and cultural support.

P: +64 3 423 0000  
E: [ompd@lincoln.ac.nz](mailto:ompd@lincoln.ac.nz)  
[www.lincoln.ac.nz](https://www.lincoln.ac.nz)

## Campus tours

We offer guided campus tours throughout the year. Tours take about 60-90 minutes, and will cover the key parts of our campus. To book your tour, head online to <https://www.lincoln.ac.nz/study/domestic-liaison/campus-tours/>

## International Office

The International Office promotes and markets Lincoln University to prospective international students and works with its global network of education agents to provide high quality customer service.

We also support students with programme and course advice and help students through the University's applications and enrolment processes.

E: [international@lincoln.ac.nz](mailto:international@lincoln.ac.nz)  
P: 0800 10 60 10  
P: +64 3 423 0000  
[www.lincoln.ac.nz/international-office](https://www.lincoln.ac.nz/international-office)



View the Lincoln University campus map at [www.lincoln.ac.nz/map](https://www.lincoln.ac.nz/map)

**Disclaimer** Every effort is made to ensure that information in this publication is correct at the time of printing, but the content may be subject to change. Lincoln University reserves the right to make changes, amendments or deletions – including the withdrawal of courses – should circumstances change. Lincoln University does not assume, and hereby disclaims, any express or implied liability whatsoever to any party for any loss or damage caused by errors or omissions, whether these errors or omissions result from negligence, accident or any other cause. March 2025.

Follow us and keep up to date







**LINCOLN**

**UNIVERSITY**

TE WHARE WĀNAKA O AORAKI